



3781-001-27.ST25

SEQUENCE LISTING

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TECH CENTER 1600/2900

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<110> Li, Frank Q.
Chu, Yong-Liang
Qiu, Jian-Tai

<120> Polymeric Conjugates for Delivery of
MHC-Recognized Epitopes
Via Peptide Vaccines

<130> 3781-001-27

<140> US 10/062,710
<141> 2002-02-05

<150> US 60/310,498
<151> 2001-08-08

<160> 232

<170> FastSEQ for Windows Version 4.0

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1 5 10 15

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<400> 3

Pro Arg Pro Gly Gly Lys Lys Tyr Xaa
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Pro Ala Ala Ala Asp Thr Gly His Ser Ser Gln Val Ser Gln Asn Tyr
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Pro Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val His Gln Ala Ile
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Val Val Glu Glu Lys
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 1 5 10 15
 Met Gln

<210> 10
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<400> 10
 Pro Met Leu Lys Glu Thr Ile Asn Glu Glu Ala Ala Glu Trp Asp Arg
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<400> 11
 Pro Met Arg Glu Pro Arg Gly Ser Asp
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Val	Gly	Glu	Ile	Tyr	Lys	Arg									
			20												

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Pro	Lys	Arg	Trp	Ile	Ile	Leu	Gly	Leu	Asn	Lys	Ile	Val	Arg	Met	Tyr
1				5					10					15	

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1				5					10					15	
Thr	Leu	Arg	Ala												
			20												

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Pro	Lys	Glu	Gly	His	Gln	Met	Lys	Asp	Cys	Thr	Glu	Arg	Gln	Ala	Asn
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<400> 17

Pro Glu Ser Phe Arg Ser Gly Val Glu Thr Thr Thr Pro Pro Gln Lys
1 5 10 15

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Pro Cys Thr Glu Met Glu Lys Glu Gly Lys Ile Ser Lys Ile Gly Pro
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<210> 19

<211> 16

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Pro Trp Glu Val Gln Leu Gly Ile Pro His Pro Ala Gly Leu Lys Lys
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<210> 20

<211> 12

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<223> HIV Helper-T Cell Epitopes

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Pro Ser Ser Thr Val Asn Asp Ile Gln Lys Leu Val
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<400> 22
 Pro Ser Ala Gly Ile Arg Lys Val Leu Phe Leu Asp
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 Pro Val Ile Thr Thr Tyr Trp Gly Leu His Thr Gly Glu
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<400> 25

Pro Leu Gly Gln Gly Val Ser Ile Glu Trp Arg Lys Gln Arg Tyr Ser
 1 5 10 15
 Thr

<210> 26

<211> 16

<212> PRT

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<400> 26

Pro Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
 1 5 10 15

<210> 27

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<223> HIV Helper-T Cell Epitopes

<400> 27

Pro Ser Gln Pro Lys Thr Ala Cys Thr Thr Cys Tyr Cys Lys Lys Cys
 1 5 10 15
 Cys Phe His Cys Gln
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<220>

<223> HIV Helper-T Cell Epitopes

<400> 28

Pro Ser Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
 1 5 10 15
 Gly Ser Gln Thr His
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<210> 29

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<213> Artificial Sequence

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<223> HIV Helper-T Cell Epitopes

<400> 29

Pro Val Ser Leu Ser Lys Gln Pro Thr Ser Gln Pro Arg Gly Asp Pro
 1 5 10 15
 Thr Gly Pro Lys Glu
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<223> HIV Helper-T Cell Epitopes

<400> 30

Pro Val Arg Leu Ile Lys Phe Leu Tyr Gln Ser Asn Pro Pro Pro Asn
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 Pro Glu Gly Thr Arg
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<400> 31

Pro Ser Asn Pro Pro Pro Asn Pro Glu Gly Thr Arg Gln Ala Arg Arg
 1 5 10 15

<210> 32

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<400> 32

Pro Pro Pro Leu Glu Arg Leu Thr Leu Asp Cys Asn Glu Asp Cys Gly
 1 5 10 15
 Thr Ser Gly Thr Gln
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<400> 33

Pro Val Tyr Tyr Gly Val Pro Val Trp Lys Glu Ala
 1 5 10

<210> 34

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Pro Cys Val Pro Thr Asn Pro Val Pro Gln Glu Val Val
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<210> 35

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Pro Glu Gln Met His Glu Asp Ile Ile Ser Leu Trp Asp Gln Ser Leu
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<400> 37

Pro Trp Asp Gln Ser Leu Lys Pro Cys Val Lys Leu Thr Pro Leu Cys
 1 5 10 15
 Val Ser

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<400> 38
 Pro Leu Lys Cys Thr Asp Leu Gly Asn Ala Thr Asn Thr Asn
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<210> 39
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<220>
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<400> 39
 Pro Lys Asn Cys Ser Phe Asn Ile Ser Thr Ser Ile Arg Gly Lys Val
 1 5 10 15

<210> 40
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<400> 40
 Pro Pro Ala Gly Phe Ala Ile Leu Lys Cys Asn Asn Lys Thr Phe Asn
 1 5 10 15

<210> 41
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 Pro Phe Ala Ile Leu Lys Cys Asn Asn Lys
 1 5 10

<210> 42
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<400> 42

Pro Gly Thr Gly Pro Cys Thr Asn Val Ser Thr Val Gln Cys
1 5 10

<210> 43

<211> 17

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<400> 43

Pro Asn Ala Lys Thr Ile Ile Val Gln Leu Asn Glu Ser Val Ala Ile
1 5 10 15
Cys

<210> 44

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<400> 44

Pro Arg Ile Gln Arg Gly Pro Gly Arg Ala Phe Val Thr Ile Gly Lys
1 5 10 15

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<220>

<223> HIV Helper-T Cell Epitopes

<400> 45

Pro Ile Gln Arg Gly Pro Gly Arg Ala Phe Val Thr Ile Gly Lys Ile
1 5 10 15
Gly Asn

<210> 46

<211> 17

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<223> HIV Helper-T Cell Epitopes

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Pro Arg Ile Ile Gly Asp Ile Arg Lys Ala His Cys Asn Ile Ser Arg
 1 5 10 15
 Tyr

<210> 47

<211> 21

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<223> HIV Helper-T Cell Epitopes

<400> 47

Pro Gly Ala Ala Ser Arg Asp Leu Glu Lys His Gly Ala Ile Thr Ser
 1 5 10 15
 Ser Asn Thr Ala Ala
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<210> 48

<211> 22

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<400> 48

Pro Gln Glu Glu Glu Glu Val Gly Phe Pro Val Thr Pro Gln Val Pro
 1 5 10 15
 Pro Leu Arg Pro Met Thr
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<210> 49

<211> 21

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<400> 49

Pro Leu Lys Glu Lys Gly Gly Leu Glu Gly Leu Ile His Ser Gln Arg
 1 5 10 15
 Arg Gln Asp Ile Leu
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Pro His Pro Val Ser Leu His Gly Met Asp Asp Pro Glu Arg Glu Val
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 Leu Glu Trp Arg Phe
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<223> HIV Helper-T Cell Epitopes

<400> 51

Pro Glu Trp Arg Phe Asp Ser Arg Leu Ala Phe His His Val Ala Arg
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 Glu Leu His Pro Glu Tyr Phe Lys Asn
 20 25

<210> 52

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<212> PRT

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<223> HIV CTL-Epitopes

<400> 52

Pro Gly Gln Met Val His Gln Ala Ile Ser Pro Arg Thr Leu
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<210> 53

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<212> PRT

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<223> HIV CTL-Epitopes

<400> 53

Pro Gly Gln Met Val His Gln Ala Ile Ser Pro Arg Thr Leu Asn Ala
 1 5 10 15
 Trp Val Lys Val Val
 20

<210> 54

<211> 23

<212> PRT

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<223> HIV CTL-Epitopes

<400> 54

Pro	Val	His	Gln	Ala	Ile	Ser	Pro	Arg	Thr	Leu	Asn	Ala	Trp	Val	Lys
1				5					10					15	
Val	Val	Glu	Glu	Lys	Ala	Phe									
		20													

<210> 55

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<223> HIV CTL-Epitopes

<400> 55

Pro	His	Gln	Ala	Ile	Ser	Pro	Arg	Thr	Leu
1				5					10

<210> 56

<211> 12

<212> PRT

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<223> HIV CTL-Epitopes

<400> 56

Pro	Gln	Ala	Ile	Ser	Pro	Arg	Thr	Leu	Asn	Ala	Trp
1				5					10		

<210> 57

<211> 10

<212> PRT

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<223> HIV CTL-Epitopes

<400> 57

Pro	Leu	Ser	Pro	Arg	Thr	Leu	Asn	Ala	Trp
1				5					10

<210> 58

<211> 10

<212> PRT

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<223> HIV CTL-Epitopes

<400> 58

Pro	Asp	Thr	Val	Leu	Glu	Asp	Ile	Asn	Leu
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1 5 10

<210> 59
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<400> 59
 Pro Ser Leu Tyr Asn Val Ala Thr Leu
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<210> 60
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<220>
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<400> 60
 Pro Leu Ser Pro Arg Thr Leu Asn Ala Trp
 1 5 10

<210> 61
 <211> 10
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<220>
 <223> HIV CTL-Epitopes

<400> 61
 Pro Tyr Pro Leu Thr Phe Gly Trp Cys Phe
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<210> 62
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 <223> HIV CTL-Epitopes

<400> 62
 Pro Ser Pro Arg Thr Leu Asn Ala Trp Val
 1 5 10

<210> 63
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<223> HIV CTL-Epitopes

<400> 63

Pro	Asn	Ala	Trp	Val	Lys	Val	Val	Glu	Glu	Lys	Ala	Phe	Ser	Pro	Glu
1				5				10						15	
Val	Ile	Pro	Met	Phe											
				20											

<210> 64

<211> 21

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<220>

<223> HIV CTL-Epitopes

<400> 64

Pro	Glu	Glu	Lys	Ala	Phe	Ser	Pro	Glu	Val	Ile	Pro	Met	Phe	Ser	Ala
1				5				10						15	
Leu	Ser	Glu	Gly	Ala											
				20											

<210> 65

<211> 10

<212> PRT

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<220>

<223> HIV CTL-Epitopes

<400> 65

Pro	Glu	Val	Ile	Pro	Met	Phe	Ser	Ala	Leu
1				5					10

<210> 66

<211> 8

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<220>

<223> HIV CTL-Epitopes

<400> 66

Pro	Val	Ile	Pro	Met	Phe	Ser	Ala
1				5			

<210> 67

<211> 11

<212> PRT

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<220>

<223> HIV CTL-Epitopes

<400> 67

Pro	Ala	Thr	Pro	Gln	Asp	Leu	Asn	Met	Met	Leu
1				5					10	

<210> 68

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 68

Pro	Thr	Pro	Gln	Asp	Leu	Asn	Thr	Met	Leu
1				5					10

<210> 69

<211> 10

<212> PRT

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<220>

<223> HIV CTL-Epitopes

<400> 69

Pro	Asp	Leu	Asn	Thr	Met	Leu	Asn	Thr	Val
1				5					10

<210> 70

<211> 21

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<220>

<223> HIV CTL-Epitopes

<400> 70

Pro	Asp	Leu	Asn	Thr	Met	Leu	Asn	Thr	Val	Gly	Gly	His	Gln	Ala	Ala
1					5				10					15	
Met	Gln	Met	Leu	Lys											
			20												

<210> 71

<211> 10

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<223> HIV CTL-Epitopes

<400> 71

Pro Gly His Gln Ala Ala Met Gln Met Leu
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<210> 72
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<400> 72
 Pro Ala Met Gln Met Leu Lys Glu Thr Ile
 1 5 10

<210> 73
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<400> 73
 Pro Val His Pro Val His Ala Gly Pro Ile Ala
 1 5 10

<210> 74
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<220>
 <223> HIV CTL-Epitopes

<400> 74
 Pro Gly Ser Asp Ile Ala Gly Thr Thr Ser Thr Leu Gln Glu Gln Ile
 1 5 10 15
 Gly Trp Met Thr Asn
 20

<210> 75
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<400> 75
 Pro Thr Ser Thr Leu Gln Glu Gln Ile Gly Trp Phe
 1 5 10

<210> 76
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<400> 76
 Pro Asn Pro Pro Ile Pro Gly Glu Ile Lys Arg Trp Ile Ile Leu Gly
 1 5 10 15
 Asn Ile Lys

<210> 77
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<400> 77
 Pro Pro Pro Ile Pro Val Gly Asp Ile Tyr
 1 5 10

<210> 78
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<220>
 <223> HIV CTL-Epitopes

<400> 78
 Pro Gly Glu Ile Tyr Lys Arg Trp Ile Ile
 1 5 10

<210> 79
 <211> 10
 <212> PRT
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<220>
 <223> HIV CTL-Epitopes

<400> 79
 Pro Lys Arg Trp Ile Ile Leu Gly Leu Asn
 1 5 10

<210> 80
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<220>

<223> HIV CTL-Epitopes

<400> 80

Pro	Lys	Arg	Trp	Ile	Ile	Leu	Gly	Leu	Asn	Lys	Ile	Val	Arg	Met	Tyr
1				5				10						15	

Cys

<210> 81

<211> 14

<212> PRT

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<400> 81

Pro	Lys	Trp	Ile	Leu	Gly	Leu	Asn	Lys	Ile	Val	Arg	Met	Tyr
1				5				10					

<210> 82

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 82

Pro	Gly	Leu	Asn	Lys	Ile	Val	Arg	Met	Tyr
1				5				10	

<210> 83

<211> 10

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<223> HIV CTL-Epitopes

<400> 83

Pro	Asp	Arg	Phe	Tyr	Lys	Leu	Thr	Arg	Ala
1				5				10	

<210> 84

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 84

Pro Ala Glu Gln Ala Ser Gln Glu Val Lys Asn Trp
 1 5 10

<210> 85
 <211> 10
 <212> PRT
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<220>
 <223> HIV CTL-Epitopes

<400> 85
 Pro Asn Ala Asn Pro Asp Cys Lys Thr Ile
 1 5 10

<210> 86
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 <223> HIV CTL-Epitopes

<400> 86
 Pro Asn Pro Asp Cys Lys Thr Ile Leu
 1 5

<210> 87
 <211> 10
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<400> 87
 Pro Ser Gln Val Thr Asn Pro Ala Asn Ile
 1 5 10

<210> 88
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 <223> HIV CTL-Epitopes

<400> 88
 Pro Lys Glu Gly His Gln Met Lys Asp Cys Thr Glu Arg Gln Ala Asn
 1 5 10 15
 Phe

<210> 89
 <211> 17
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<220>
 <223> HIV CTL-Epitopes

<400> 89
 Pro Gly Asn Phe Leu Gln Ser Arg Glu Pro Glu Pro Thr Ala Pro Pro
 1 5 10 15
 Phe

<210> 90
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<220>
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<400> 90
 Pro Tyr Pro Leu Thr Ser Leu Arg Ser Leu Phe
 1 5 10

<210> 91
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<220>
 <223> HIV CTL-Epitopes

<400> 91
 Pro Arg Val Lys Glu Lys Tyr Gln His Leu
 1 5 10

<210> 92
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<220>
 <223> HIV CTL-Epitopes

<400> 92
 Pro Ala Ala Glu Gln Leu Trp Val Thr Val Tyr Tyr Gly Val Pro Val
 1 5 10 15
 Trp Lys Glu Ala Thr
 20

<210> 93
 <211> 11

<212> PRT
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<220>
 <223> HIV CTL-Epitopes

<400> 93
 Pro Lys Leu Trp Val Thr Val Tyr Tyr Gly Val
 1 5 10

<210> 94
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<400> 94
 Pro Thr Val Tyr Tyr Gly Val Pro Val Trp Lys
 1 5 10

<210> 95
 <211> 20
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<220>
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<400> 95
 Pro Asp Thr Glu Val His Asn Val Trp Ala Thr His Ala Cys Val Pro
 1 5 10 15
 Thr Asp Pro Asn
 20

<210> 96
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 <212> PRT
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<220>
 <223> HIV CTL-Epitopes

<400> 96
 Pro Asp Pro Asn Pro Gln Glu Val Val Leu
 1 5 10

<210> 97
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 97

Pro His Glu Asp Ile Ile Ser Leu Trp Asp Gln Ser Leu Lys
1 5 10

<210> 98

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 98

Pro Lys Leu Thr Pro Leu Cys Val Thr Leu
1 5 10

<210> 99

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 99

Pro Lys Leu Thr Ser Cys Asn Thr Ser Val
1 5 10

<210> 100

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 100

Pro Val Ser Phe Glu Pro Ile Pro Ile His Tyr
1 5 10

<210> 101

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV CTL-Epitopes

<400> 101

Pro Pro Ile Pro Ile His Tyr Cys Ala Pro Ala Gly Phe Ala Ile Leu
1 5 10 15
Lys Cys Asn Asn

20

<210> 102
 <211> 27
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 102
 Pro Thr Arg Pro Asn Asn Asn Thr Arg Lys Arg Ile Arg Ile Gln Arg
 1 5 10 15
 Gly Pro Gly Arg Ala Phe Val Thr Ile Gly Lys
 20 25

<210> 103
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 103
 Pro Trp Pro Thr Val Arg Glu Arg Met
 1 5

<210> 104
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 104
 Pro Glu Glu Glu Glu Val Gly Phe Pro Val Thr Pro Gln Val Pro Leu
 1 5 10 15
 Arg Pro Met Thr Tyr
 20

<210> 105
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 105
 Pro Val Gly Phe Pro Val Thr Pro Gln Val Pro Leu Arg Pro Met Thr
 1 5 10 15
 Tyr Lys Ala Ala Val Asp Leu Ser His Phe Leu Lys Glu Lys Gly Gly

Leu 20 25 30

<210> 106
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 106
 Pro Phe Pro Val Thr Pro Gln Val Pro Leu
 1 5 10

<210> 107
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 107
 Pro Arg Pro Gln Val Pro Leu Arg Pro Met Thr Tyr
 1 5 10

<210> 108
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 108
 Pro Val Pro Leu Arg Pro Met Thr Tyr
 1 5

<210> 109
 <211> 11
 <212> PRT
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<220>
 <223> HIV CTL-Epitopes

<400> 109
 Pro Gln Val Pro Leu Arg Pro Met Thr Tyr Lys
 1 5 10

<210> 110

<211> 9
 <212> PRT
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<220>
 <223> HIV CTL-Epitopes

<400> 110
 Pro Val Pro Leu Arg Pro Met Thr Tyr
 1 5

<210> 111
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV CTL-Epitopes

<400> 111
 Pro Lys Ala Ala Val Asp Leu Ser His Phe Leu Lys Glu Lys Gly Gly
 1 5 10 15
 Leu Glu Gly Leu Ile
 20

<210> 112
 <211> 10
 <212> PRT
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<220>
 <223> HIV CTL-Epitopes

<400> 112
 Pro Asp Leu Ser His Phe Leu Lys Glu Lys
 1 5 10

<210> 113
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 113
 Pro Glu Leu Asp Lys Trp Glu Lys Ile Arg Leu Arg Pro Gly Gly Lys
 1 5 10 15
 Thr Leu Tyr

<210> 114
 <211> 19
 <212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 114

Pro Ile Arg Leu Pro Gly Gly Lys Lys Tyr Met Leu Lys His Val Val
 1 5 10 15
 Trp Ala Ala

<210> 115

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 115

Pro Lys Leu Lys His Ile Ile Trp Ala Ser Arg Glu Leu Glu Arg Phe
 1 5 10 15
 Ala Val Asn Pro Gly Leu Leu Glu
 20

<210> 116

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 116

Pro Leu Glu Thr Ser Glu Gly Cys Arg Gln Ile Leu Gly Gln Leu Gln
 1 5 10 15

<210> 117

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 117

Pro Tyr Cys Val His Gln Arg Ile Glu Ile Lys Asp Thr Lys Glu Ala
 1 5 10 15
 Leu Asp Lys Ile Glu Glu Glu Gln Asn Lys Ser Lys Lys Lys Ala
 20 25 30

<210> 118

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 118

Pro	Tyr	Ser	Val	His	Gln	Arg	Ile	Asp	Val	Lys	Asp	Thr	Lys	Glu	Ala
1				5					10					15	
Leu	Glu	Lys	Ile	Glu	Glu	Glu	Gln	Asn	Lys	Ser	Lys	Lys	Lys	Ala	
			20					25					30		

<210> 119

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 119

Pro	Lys	Lys	Ala	Gln	Gln	Ala	Ala	Ala	Asp	Thr
1				5					10	

<210> 120

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 120

Pro	Ala	Ala	Gly	Thr	Gly	Asn	Ser	Ser	Gln	Val	Ser	Gln	Asn	Tyr
1				5					10				15	

<210> 121

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 121

Pro	Asp	Thr	Gly	His	Ser	Ser	Gln	Val	Ser	Gln	Asn	Tyr
1				5					10			

<210> 122

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 122

Pro Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val His Gln Ala Ile
 1 5 10 15
 Ser Pro Arg Thr Leu
 20

<210> 123

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 123

Pro Val His Gln Ala Ile Ser Pro Arg Thr Leu Asn Ala Trp Val Lys
 1 5 10 15

<210> 124

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 124

Pro Glu Gly Ala Thr Pro Gln
 1 5

<210> 125

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 125

Pro Gly Ala Thr Pro Gln Asp Leu Asn Thr Met Leu
 1 5 10

<210> 126

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 126

Pro Asp Leu Asn Thr Met Leu Asn Thr Val Gly
 1 5 10

<210> 127
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 127
 Pro Glu Thr Ile Asn Glu Glu Ala Ala Glu Trp Asp
 1 5 10

<210> 128
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 128
 Pro Leu Ala Glu Ala Met Ser
 1 5

<210> 129
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 129
 Pro Asn Phe Arg Asn Gln Arg Lys Ile Val Lys
 1 5 10

<210> 130
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 130
 Pro Pro Arg Lys Lys Gly Cys Trp Lys Cys Gly
 1 5 10

<210> 131
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 131

Pro Arg Gln Ala Asn Phe Leu Gly Lys Ile Trp Pro Ser Tyr Lys Gly
 1 5 10 15
 Arg

<210> 132

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 132

Pro Tyr Lys Gly Arg Pro Gly Asn Phe Leu
 1 5 10

<210> 133

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 133

Pro Glu Leu Asp Arg Trp Glu Lys Ile
 1 5

<210> 134

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 134

Pro Ala Leu Asp Lys Ile Glu
 1 5

<210> 135

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 135

Pro Asp Ile Arg Gln Gly Pro

1 5

<210> 136
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 136
 Pro Gln Gly Val Gly Gly Pro
 1 5

<210> 137
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 137
 Pro Pro Gln Ile Tyr Leu Trp Gln
 1 5

<210> 138
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 138
 Pro Met Ser Leu Pro Gly Arg Trp Lys Pro Lys Met
 1 5 10

<210> 139
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 139
 Pro Leu Pro Gly Arg Trp Lys Pro Lys
 1 5

<210> 140
 <211> 10
 <212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 140

Pro Pro Leu Thr Glu Glu Ala Glu Leu Glu
1 5 10

<210> 141

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 141

Pro Pro Leu Thr Glu Ala Glu Leu Glu Leu Ala Glu Asn Arg Glu Ile
1 5 10 15
Leu Lys Glu Pro Val His Gly Val Tyr
20 25

<210> 142

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 142

Pro Leu Thr Glu Glu Ala Glu Leu Glu Leu Ala
1 5 10

<210> 143

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 143

Pro Val Asp Gly Ala Ala Asn Arg Glu Thr
1 5 10

<210> 144

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 144

Pro Val Pro Ala His Lys Gly Ile Gly Gly Asn Glu Gln Val Asp
 1 5 10 15

<210> 145

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 145

Pro Lys Ala Arg Gly Trp Phe Tyr Arg His His Tyr Glu Ser Pro
 1 5 10 15

<210> 146

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<221> VARIANT

<222> 19

<223> Xaa = Any Amino Acid

<400> 146

Pro Lys Pro Gln Lys Thr Lys Gly His Arg Gly Ser His Thr Met Asn
 1 5 10 15
 Gly His Xaa

<210> 147

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 147

Pro Glu Pro Val Asp Pro Asn Leu Glu Pro Trp Asn His Pro Ser
 1 5 10 15

<210> 148

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 148

Pro Glu Pro Val Asp Pro Arg Leu Glu Trp Lys His Pro Gly Ser Gln
 1 5 10 15

<210> 149

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 149

Pro Pro Thr Ser Gln Pro Arg Gly Asp Pro Thr Gly Pro Lys Glu
 1 5 10 15

<210> 150

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 150

Pro Glu Gly Thr Arg Gln Ala Arg Arg Asn Arg Arg Arg Trp Arg Glu
 1 5 10 15
 Arg Gln Arg

<210> 151

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 151

Pro Pro Val Pro Leu Gln Leu Pro Pro Leu Glu Arg Leu Thr Leu Asp
 1 5 10 15

<210> 152

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 152

Pro Gly Val Gly Ser Pro Gln Ile Leu Val Glu
 1 5 10

<210> 153
 <211> 23
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 153
 Pro Ala Thr Glu Lys Leu Trp Val Thr Val Tyr Tyr Gly Val Pro Val
 1 5 10 15
 Trp Lys Glu Ala Thr Thr Thr
 20

<210> 154
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 154
 Pro Gly Val Pro Val Trp Lys Glu Ala Thr Thr
 1 5 10

<210> 155
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 155
 Pro Leu Phe Cys Ala Ser Asp Ala Lys Ala Tyr Asp Thr Glu Val His
 1 5 10 15
 Asn Val Trp Ala Thr
 20

<210> 156
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 156
 Pro Tyr Asp Thr Glu Val His Asn Val Trp Ala
 1 5 10

<210> 157
 <211> 21

<212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 157
 Pro Ala Cys Val Pro Thr Asp Pro Asn Pro Gln Glu Val Val Leu Val
 1 5 10 15
 Asn Val Thr Glu Asn
 20

<210> 158
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 158
 Pro Pro Gln Glu Val Val Leu Val Asn Val Thr
 1 5 10

<210> 159
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 159
 Pro Pro Gln Glu Val Val Leu Val Asn Val Thr Glu Asn Phe Asp Met
 1 5 10 15
 Trp Lys Asn Asp Met
 20

<210> 160
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 160
 Pro Glu Val Val Leu Val Asn Val Thr Glu Asn
 1 5 10

<210> 161
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 161

Pro	Arg	Ile	His	Ile	Gly	Pro	Gly	Arg	Ala	Phe	Tyr	Thr	Thr	Lys	Asn
1				5					10					15	

<210> 162

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 162

Pro	Ile	His	Ile	Gly	Pro	Gly	Arg
1				5			

<210> 163

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 163

Pro	Ile	Gln	Arg	Gly	Pro	Gly	Arg	Ala	Phe	Val
1				5					10	

<210> 164

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 164

Pro	Ala	His	Cys	Asn	Ile	Ser	Arg	Ala	Lys	Trp
1				5					10	

<210> 165

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 165

Pro	Val	Gly	Trp	Pro	Thr	Val	Arg	Glu	Arg	Met
1				5					10	

<210> 166
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 166
 Pro Thr Val Arg Glu Arg Met Arg Arg Ala Glu
 1 5 10

<210> 167
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 167
 Pro Val Gly Ala Ala Ser Arg Asp Leu Glu Lys His Gly Ala Ile
 1 5 10 15

<210> 168
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 168
 Pro Gly Ala Ala Ser Arg Asp Leu Glu Lys His
 1 5 10

<210> 169
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIV B Cell Epitopes

<400> 169
 Pro Gly Ala Ala Ser Arg Asp Leu Glu Lys His Gly Ala Ile Thr Ser
 1 5 10 15
 Ser Asn Thr Ala Ala
 20

<210> 170
 <211> 15
 <212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 170

Pro Ala Gln Glu Glu Glu Glu Val Gly Phe Pro Val Thr Pro Gln
1 5 10 15

<210> 171

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 171

Pro Ala Ala Val Asp Leu Ser
1 5

<210> 172

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 172

Pro Ala Ala Val Asp Leu Ser His Phe Leu Lys Glu Lys Gly Gly Leu
1 5 10 15
Glu Gly Leu Ile Ser His
20

<210> 173

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 173

Pro Val Glu Pro Asp Lys Val Glu Glu Ala Asn
1 5 10

<210> 174

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 174

Pro Asp Lys Val Glu Glu Ala Asn Lys Gly Glu Asn Thr Ser Leu Leu
 1 5 10 15
 His Pro Val Ser Leu
 20

<210> 175

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 175

Pro Lys Gly Glu Asn Thr Ser Leu Leu His Pro Val Ser Leu His Gly
 1 5 10 15
 Met Asp Asp Pro Glu Arg Glu Val Leu
 20 25

<210> 176

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> HIV B Cell Epitopes

<400> 176

Pro His Gly Met Asp Asp Pro Glu Arg Glu Val Leu Glu Trp Arg Phe
 1 5 10 15
 Asp Ser Arg Leu Ala
 20

<210> 177

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> MPT64 protein

<400> 177

Pro Ala Pro Lys Thr Tyr Cys Glu Glu Leu Lys Gly Thr Asp Thr Gly
 1 5 10 15
 Gln Ala Cys Gln Ile
 20

<210> 178

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> MPT64 protein

<400> 178

Pro Gly Thr Asp Thr Gly Gln Ala Cys Gln Ile Gln Met Ser Asp Pro
 1 5 10 15
 Ala Tyr Asn Ile Asn
 20

<210> 179

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> MPT64 protein

<400> 179

Pro Gln Met Ser Asp Pro Ala Tyr Asn Ile Asn Ile Ser Leu Pro Ser
 1 5 10 15
 Tyr Tyr Phe Asp Gln
 20

<210> 180

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> MPT64 protein

<400> 180

Pro Ile Ser Leu Pro Ser Tyr Tyr Pro Asp Gln Lys Ser Leu Glu Asn
 1 5 10 15
 Tyr Ile Ala Gln Thr
 20

<210> 181

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> MPT64 protein

<400> 181

Pro Arg Asp Lys Phe Leu Ser Ala Ala Thr Ser Ser Thr Phe Arg Glu
 1 5 10 15
 Ala Phe Tyr Glu Leu
 20

<210> 182

<211> 10

<212> PRT

<213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 182
 Pro Val Ile Arg Gln Asn Ile His Ser Leu
 1 5 10

<210> 183
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 183
 Pro Leu Leu Gly Pro Gly Arg Pro Tyr Arg
 1 5 10

<210> 184
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 184
 Pro Ser Val Tyr Asp Phe Phe Val Trp Leu
 1 5 10

<210> 185
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 185
 Pro Val Thr Trp His Arg Tyr His Leu Leu
 1 5 10

<210> 186
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 186
 Pro Ser Leu Asp Asp Tyr Asn His Leu Val
 1 5 10

<210> 187
 <211> 11
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Tyrosinase-related protein 2 epitopes

 <400> 187
 Pro Ser Leu His Asn Leu Val His Ser Phe Leu
 1 5 10

<210> 188
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Tyrosinase-related protein 2 epitopes

 <400> 188
 Pro Thr Ala Ile Asp Leu Pro Val Ser Val
 1 5 10

<210> 189
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Tyrosinase-related protein 2 epitopes

 <400> 189
 Pro Ala Asn Asp Pro Ile Phe Val Val Leu
 1 5 10

<210> 190
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Tyrosinase-related protein 2 epitopes

 <400> 190
 Pro Tyr Met Asp Gly Thr Met Ser Gln Val
 1 5 10

<210> 191
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 191
 Pro Gly Leu Phe Val Leu Leu Ala Phe Leu
 1 5 10

<210> 192
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 192
 Pro Ala Leu Val Gly Leu Phe Val Leu Leu
 1 5 10

<210> 193
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tyrosinase-related protein 2 epitopes

<400> 193
 Pro Ala Ala Gly Ile Gly Ile Leu Thr Val
 1 5 10

<210> 194
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HER2/neu breast cancer antigens

<400> 194
 Pro Ile Ile Ser Ala Val Val Gly Ile Leu
 1 5 10

<210> 195
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HER2/neu breast cancer antigens

<400> 195
 Pro Lys Ile Phe Gly Ser Leu Ala Phe
 1 5

<210> 196
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HER2/neu breast cancer antigens

<400> 196
 Pro Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro Pro Ala His
 1 5 10 15
 Gly Val Thr Ser Ala
 20

<210> 197
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> T Cell epitopes

<400> 197
 Pro Ala Ala Arg Ala Val Phe Leu Ala Leu
 1 5 10

<210> 198
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> T Cell epitopes

<400> 198
 Pro Tyr Arg Pro Arg Pro Arg Arg Tyr
 1 5

<210> 199
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> T Cell epitopes

<400> 199
 Pro Val Leu Pro Asp Val Phe Ile Arg Cys
 1 5 10

<210> 200
 <211> 10
 <212> PRT

<213> Artificial Sequence

<220>

<223> T Cell epitopes

<400> 200

Pro Ala Tyr Gly Leu Asp Phe Tyr Ile Leu
1 5 10

<210> 201

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> T Cell epitopes

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Pro Ser Tyr Leu Asp Ser Gly Ile His Phe
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